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REMARKSCLAIM REJECTION UNDER 35 USC §103

Claims 1 and 3 - 8 are finally rejected under 35 U.S.C. 103 over Applicants' Admitted Prior Art (AAPA) in view of Roberts et al., U.S. Patent 3,859,135, and Chen et al., U.S. Patent Application 2002/0124388 for the reasons set forth in paragraph 4 of paper number 12.

Claim 1 has been amended to positively recite the cutting of freshly pasted continuous metal mesh strip with the cutting device heated to a temperature above at least about 150°C. The amendment to claim 1 is responsive to the second paragraph and the penultimate paragraph of Paragraph 4 of the Final Rejection, wherein it is stated that "The only process of claim 1 is that the blades are heated to cut paperless batteries". The method of the invention as now claimed prevents any other method or handling for the cutting of freshly pasted continuous metal strip into battery plates.

Claims 5 and 6 have been amended to include heating of the index mechanism. Antecedent support is provided in the specification on page 5, lines 14 - 18.

In response to the rejection based on AAPA in view of Roberts et al. and Chen et al., Applicants submit that the distinguishing features of their invention thereover are discussed in detail in the amendment filed March 5, 2004 in the present case, and those arguments are expressly incorporated herein by reference thereto.

In summary, the presently claimed process of Applicants is patentably distinguishable over the combined teachings of the cited art in that no one heretofore of ordinary skill in the art successfully devised a method of cutting freshly pasted expanded continuous metal strip into paperless battery plates using heated cutting blades to prevent paste from sticking to blades, notwithstanding a long felt need for over 30 years.

Applicants' prior art process (AAPA) comprised cutting expanded continuous metal mesh strip which has been continuously saturated and coated on each side with paste and covered on each outside surface with a paper barrier. Applicants and the battery industry world-wide for many years of manufacture of battery plates from continuous pasted mesh strip typically have applied and continue to apply a lower paper barrier to the underside of continuous expanded metal mesh strip before

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saturation with paste from a paste hopper and then covered the pasted strip with an upper paper barrier. The paper barriers heretofore have been necessary to obviate sticking of the freshly-applied paste to the plate cutter dies and anvil roll notwithstanding attempts and incentives since the mid-1970s to eliminate the need for paper barriers because of cost considerations and numerous production problems.

Although Applicants and manufacturers, suppliers and the industry in general are persons skilled in the art, it took many years of research to develop a process for cutting continuous pasted metal mesh strip which could be accomplished without the presence of paper barriers. No one in the art of manufacture of battery plates from continuous metal mesh strip heretofore could avoid the need for paper barriers.

Neither Roberts et al. nor Chen et al. was faced with the problem of severing freshly pasted expanded continuous metal strip into paperless battery plates. Applicants as persons of ordinary skill in the art were aware of the need but were unable to solve the problem until only recently.

In support of the arguments set forth herein, appended to this amendment is a Declaration by Mr. Thomas Lester Oswald, a co-inventor of the present invention and a self-employed consultant to the battery industry with over 40 years of experience in the battery industry.

Mr. Oswald confirms the long felt need to eliminate paper barriers and production problems, and he discusses the testing of the AAPA apparatus in a pilot plant in 1987 to sever and divide paperless pasted strip after flash drying. The trial was unsuccessful notwithstanding flash drying of the paste. "Because of the high cutting pressures of the AAPA process and continued adherence of flash dried paste during the trial, it was not expected that heating of cutting surfaces would obviate sticking of the paste to the cutting surface" (paragraph 7, last sentence of Declaration).

It is believed impermissible hindsight to base a rejection of obviousness on Applicants' own teachings in the present specification since the Applicants were clearly skilled in the art with indepth knowledge of the idiosyncrasies of the physical and chemical characteristics of battery paste, but had no obvious means of avoiding sticking of the paste to blades when penetrating and cutting at high pressures a thickness of metal mesh freshly saturated with paste extending from one side of the mesh to the other side of the mesh.

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In light of the Declaration of Mr. Oswald attesting to the long felt need and unsuccessful efforts to resolve this need for an economically feasible solution permitting high-speed commercial production of paperless battery plates from freshly pasted expanded continuous metal strip without the use of polymers or paper barriers, it is submitted the grounds for rejection based on obviousness has been overcome. It is therefore respectfully requested that the Final Rejection be withdrawn and that claims 1, 3 - 6 and 8 be allowed. In that claim 1 is generic to claim 7, favourable consideration and allowance of claim 7 is also respectfully requested.

Favourable consideration of the application and its allowance accordingly are earnestly solicited.

Respectfully submitted,

Marlow, et al.



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